



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,912	09/15/2003	David D. Brandt	ALBR:0136/YOD/VYA 03AB149	1251
7590	06/19/2006		EXAMINER AMRANY, ADI	
Alexander M. Gerasimow Allen-Bradley Company, LLC 1201 South Second Street Milwaukee, WI 53204-2496			ART UNIT 2836	PAPER NUMBER

DATE MAILED: 06/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/662,912

Applicant(s)

BRANDT ET AL.

Examiner

Adi Amrany

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-30, 41-43, 46 and 47 is/are allowed.
- 6) ☒ Claim(s) 1-12, 44, 45, 48 and 49 is/are rejected.
- 7) ☒ Claim(s) 6-8 and 31-40 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because of the following mislabeled items:
  - a. Figure 3, the secondary power conductor is labeled 53 in the drawing, but within the specification is referred to as item 52. The auxiliary conductor 53 is objected to, as discussed below.
  - b. Figure 7, there is no transmission line for the secondary power conductor 52 (page 18, lines 24-27).
  - c. Figure 18, the port is labeled 84, but within the specification is referred to by the number 86 (page 27, line 7).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities:
  - d. Page 17, line 25 to page 18, line 1; the specification discloses a power conductor 52 and an auxiliary conductor 53. Figure 3, however, only provides for one conductor line. Lines 18A-C are the three-phase transmission lines, line 20 is the neutral conductor, and line 22 is the earth ground. Only auxiliary conductor 53 is labeled in the figure. Both conductors are referenced again on page 18, lines 26-27.
  - e. Page 27, lines 4-17; the paragraph appears to be missing a reference to figure 18.

Appropriate correction is required.

### ***Claim Objections***

3. Claims 10 and 15 are objected to because the phrase, "selectively interrupt power only through at least one of the tap conductors," is unclear and misdescriptive. The intended use of "only" in the phrase is not clear. The use of "only" is contradictory to the phrase "at least one". Therefor, claims 10 and 15 will be interpreted as reciting "selectively interrupt *only* power through at least one of the tap conductors."

4. Claims 31-40 are objected to because claim 31 recites the limitation of "a power and data transfer assembly configured to *couple* the data source and a three-phase power source to the device." The specification discloses the control, monitoring, and protection of a pre-coupled data and three-phase power transmission line, but does not disclose how to couple or decouple the data signal with the third. See 37 CFR 1.75(c)(1): "The claim must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description."

Claims 32-40 are objected to because they depend on claim 31.

5. Claim 42 is objected to because "maintain" (line 2) is written in the wrong tense. Claim 42 should read "while maintaining".

### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 44-45 and 48-49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitations of "predetermined data communications protocol" and "predetermined override protocol" are indefinite because protocols are subject to change and modification, which would result in a change in the scope of the claims. Such limitations are improper claimed subject matter.

### ***Double Patenting***

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claim 1-5 and 9-11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2 of U.S. Patent No. 7,034,662. Although the conflicting claims are not identical, they are not patentably distinct from each other because the '662 patent claims a three-phase power transmission device where data is transmitted over the third phase conductor and the neutral conductor and that the first two phase conductors comprise interrupts. Claim 2 of '662 further includes the limitation that interrupt comprises a switch. A person of ordinary skill in the art would not find that claims 1-5 and 8-11 of the present application are patentable distinct from claims 1 and 2 of '662.

With respect to claim 1, the assembly is rejected because each of the recited limitations is claimed in claim 1 of '662.

With respect to claim 2, the assembly is rejected because the recited limitation of a switch is claimed in claim 2 of '662.

With respect to claim 3, the assembly is rejected because one of ordinary skill would not find the circuit protection circuitry patentably distinct from the claimed switch of '662. The specification of the present application states that the circuit protection circuit may include a fuse or circuit breaker (page 24, lines 8-10). Fuses and circuit breakers are switches that may be automatically triggered. It would be obvious to one skilled in the art to use a fuse or circuit breaker in an electric power transmission line.

With respect to claim 4, one of ordinary skill would recognize that a fuse or circuit breaker, when triggered, physically disengages the downstream circuitry from the power source to protect the circuitry.

With respect to claim 5, it would be obvious to one of ordinary skill in the art that a component that may be triggered to disconnect circuitry, such as a fuse or circuit breaker, must be configured for local reset in order to resume normal operations of the device.

With respect to claim 9, the plurality of sets of tap conductors recited in the claim would be obvious to a person of ordinary skill in the art because the duplication of parts is not an inventive step. See *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8 (CCPA 1977).

With respect to claim 10, the limitation of interrupting *only* power through at least one of the tap conductors is not patentably distinct from '662, which claims the condition of the interrupt of the first and second power conductors.

With respect to claim 11, it would be obvious to one of ordinary skill in the art that the interrupt switch, claimed in claim 2 of '662, is integrated with respect to the body.

### ***Allowable Subject Matter***

10. Claims 6-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 6 would be allowable if rewritten in independent form to include all the limitations of claims 1 and 3, upon which it depends. The power and data transfer assembly of claim 6 comprising circuit protection circuitry that is remotely operable is allowable over the prior art.

Claim 7 would be allowable if rewritten in independent form to include the limitations of claim 1, upon which it depends. The power and data transfer assembly of claim 1 comprising an indicator configured to indicate a status of the disconnect is allowable over the prior art.

Claim 8 would be allowable if rewritten in independent form to include the limitations of claim 1, upon which it depends. The power and data transfer assembly of claim 1 comprising a set of tap conductors coupled to respective power conductors and



to the neutral conductor and configured to conduct three-phase power and the data signals to a second device is allowable over the prior art.

11. Claims 31-40 are objected to because there is no support in the specification for the limitation in claim 31 of a power and data transfer assembly configured to couple the data source and a three-phase power source to the device. Claim 31 would be allowable if rewritten to remove the limitation of "configured to couple" and instead insert "configured to operate", "configured to manipulate" or "configured to control". Applicants may elect to insert a different phrase, provided, however, that the amended claim does not include the limitation of coupling, joining, or combining the data and power signals. The amended claim must convey that the power and data transfer assembly is configured for use with a pre-coupled data and three-phase power source.

Claims 32-40 are objected to because they depend on an objected independent claim. These claims would be allowable if the independent claim were amended, as discussed above.

12. Claims 13-30, 41-43, and 46-47 are allowed.

The following is an examiner's statement of reasons for allowance: References in the art disclose a similar power and data distribution system having a data signal source for transmitting data to a device via a power line. The prior art of record does not teach or suggest a specific detail of a power and data distribution system that having a power line electrically coupled between a data signal source and a device, comprising a first and second power conductors to conduct two phase of three phase power, and a third conductor to carry a third phased of three phase power and data signal from the data

signal source and a neutral (auxiliary) conductor configured to return and to carry data signals from the data signal source with the third conductor, wherein the power line configured to facilitate transmission of both data signals and the third phase of power to the device via the third and neutral conductor upon interruption of power to the first and second conductors, and comprising a set of tap conductors to couple the three-phase and neutral conductors to a second device. The prior art of record also does not teach or suggest controlling, monitoring and protecting the three-phase power/data conductors. The prior art references are directed to coupling/decoupling data and power and power sensing.

Independent claims 13, 26, 41 and 46 contain limitations patentably distinct from Brandt (US 7,034,662) and which are also allowable over the prior art, as provided below. Specifically, the following recited limitations place the claims in condition for allowance over the prior art:

With respect to claim 13, a set of tap conductors disposed on the body and coupled to respective power conductors and to the neutral conductor and configured to provide three-phase power and data signals to a second device.

With respect to claim 26, a set of tap conductors respectively coupled to the primary power conductors, secondary power conductor, and to the auxiliary conductor, and configured to conduct the three-phase power, the secondary power and the data signals to a second device.

With respect to claim 41, the method step of applying three-phase power and the data signals to a second device via a set of tap conductors respectively coupled to the power conductors and the neutral conductor and disposed in the body.

With respect to claim 46, the method step of applying three-phase power and the data signals to a second device via a set of tap conductors respectively coupled to the primary, secondary, and neutral conductors.

Dependent claims 14-25, 27-30, 42-45, and 47 are allowable because they depend on allowed independent claims 13, 26, 41, and 46, respectively.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Strom (US 4,642,607) discloses coupling, decoupling, and repeating bit streams on a power line communications network.

Boomgaard (US 4,903,006) discloses transmitting data over power lines.

Takezoe (US 5,448,231) discloses a method for coupling data and DC power on DC transmission line.

Fisher (US 2002/0021209) discloses a method for coupling data and power over a transmission line or network cable.

Gandhi (US 2002/0107648) discloses voltage sensing of power conductors, but does not disclose coupled data signals.

Kline (US 2002/0118101) discloses a method for coupling data and power on a power transmission line.

VanderZee (US 2003/0078742) discloses three-phase power factor sampling, but does not disclose coupled data signals.

Kaiser (US 6,633,166) discloses sampling three-phase power for shorts and faults. The system uses a data link to transmit information regarding shorts to interrupt switches. The data signals, however, are not transmitted over the three power conductor and neutral conductor.

Crenshaw (US 6,975,212) discloses a method for coupling a data signal to a three-phase power line. Crenshaw does not disclose coupling the data signal to the third conductor and the neutral conductor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adi Amrany whose telephone number is (571) 272-0415. The examiner can normally be reached on weekdays, from 9am-5pm.

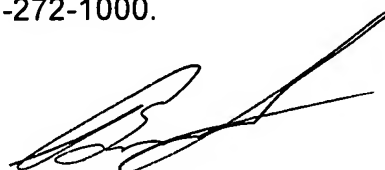
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800 x36. The fax phone

Art Unit: 2836

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AA



BRIAN SIRCUS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800